UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/773,882	02/06/2004	Jun Minakuti	15162/05650	1229

24367   7590   10/17/2008
SIDLEY AUSTIN LLP
717 NORTH HARWOOD
SUITE 3400
DALLAS, TX 75201

EXAMINER
QUIETT, CARRAMAH J

ART UNIT	PAPER NUMBER
2622	

MAIL DATE	DELIVERY MODE
10/17/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

PTOL-90A (Rev. 04/07)

Response to Amendment

1.   The amendment(s), filed on 10/02/2008, have been entered and made of record. Claims

1-8 and 10-20 are pending.

Response to Arguments

2.   Applicant's arguments filed 10/02/2008 have been fully considered but they are not

persuasive.

In the Final Office Action dated 07/11/2008, the Examiner rejected claims 1-8, 10-18,

and 20 under 35 U.S.C. § 103(a) as being unpatentable over Sano (U.S. Pat. #6,184,940 – herein

referred to as Sano) in view of Shinotsuka et al. (U.S. Pat. #6,191,408 – herein referred to as

Shinotsuka) and Skow (U.S. Pat. #6,995,791 herein referred to as Skow). However, in the

Remarks filed 10/02/2008, the Applicant asserts that Sano, Shinotsuka, and Skow, individually

and collectively, do not disclose or suggest a white balance circuit that performs white balance

processing on both linear and logarithmic signals.

The Examiner respectfully disagrees based on the following.

Claim 1 recites:

An image-sensing apparatus comprising:
        a solid-state image sensor including:
                a plurality of pixels that perform photoelectric conversion so as to
        generate output signals that vary with a first characteristic in a first region
        such that the output signals vary linearly with respect to an amount of
        incident light and with a second characteristic in a second region such that
        the output signals vary logarithmically with respect to the amount of
        incident light; and
                a plurality of types of color filters provided in vicinity of the
        pixels; and
                a white balance circuit that performs white balance processing by
performing, on at least one of different types of chrominance signals outputted as

corresponding to the different types of color filters from the solid-state image sensor, different calculation operations fit respectively for the first and second characteristics in the first and second regions so as to thereby generate new output data. [Emphasis Added]

As stated in the previous office action, Sano, as modified by Shinotuska and Skow discloses the white balance circuit as recited in claim 1. Sano discloses a white balance circuit (fig. 1, refs. 130/140), which performs white balance adjustment for the long color signal and the short color signal. Please read col. 4, line 15 -- col. 5, line 55; and see fig. 2. The Examiner understands that Sano does not expressly teach the image sensor including a first characteristic in a first region such that the output signals vary linearly with respect to the amount of incident light and with a second characteristic in a second region such that the output signals vary logarithmically with respect to amount of incident light; and a plurality of types of color filters provided in vicinity of the pixels; and chrominance signals outputted as corresponding to the different types of color filters.

This is why col. 6, lines 21-36 of Shinotsuka is utilized for teaching the image sensor (fig. 4, ref. 1) including a first characteristic in a first region such that the output signals vary linearly with respect to the amount of incident light and with a second characteristic in a second region such that the output signals vary logarithmically with respect to amount of incident light.

Please note that the object of Shinotsuka's invention is to provide a photosensor signal processing apparatus which can correct variations in characteristics between pixels of an image sensor (col. 2, lines 11-17). Further in figure 4, Shinotsuka illustrates a photosensor signal processing apparatus (5). This apparatus includes a correction data storage device (6A) which stores a set of correction data about the photosensors for the correction of individual output values of the photosensors, and a correcting device (6B) for correcting the individual output

values of the photosensors on the basis of the correction data. The photosensor signal processing apparatus (5) can correct the variations in output characteristic so that the output characteristics of all the photosensors (linear function region and logarithmic function region) are identical with the standard sensor output characteristic (col. 6, lines 21-36). Then in figure 12, Shinotsuka explains that the photosensor signal processing apparatus (5) can compensate for the change in the output of the image sensor due to variation of ambient temperature. This is done so, by utilizing a temperature sensor which transmits detected temperature information to a temperature compensating unit (col. 12, line 45 – col. line 13, line 18).

The photosensor signal processing apparatus (5) of Shinotsuka gives one skilled in the art the motivation to combine Shinotsuka with Sano in order to suppress noise due to the temperature variation of ambient light (Shinotsuka, col. 2, lines 11-25, col. 3, lines 28-38, col. 6, lines 21-36, col. 12, line 45 – col. line 13, line 18).

Further, Skow is used to teach a plurality of types of color filters provided in vicinity of the pixels; and chrominance signals outputted as corresponding to the different types of color filters (col. 5, lines 32-56; col. 6, lines 23-25; col. 8, lines 24-30).

For claim 7, the Examiner also disagrees with the Applicants assertions. As explained above, Sano, as modified by Shinotuska and Skow handles white balance correction for both linear and logarithmic signals. Respectfully, please refer to the explanation for claim 1 above.

For claim 18, the Examiner also disagrees with the Applicants assertions. As explained above, Sano, as modified by Shinotuska and Skow handles white balance correction for both linear and logarithmic signals. Respectfully, please refer to the explanation for claim 1 above.

Accordingly, the Examiner respectfully maintains the rejection of claims 1-8, 10-18, and

20 under 35 U.S.C. § 103(a) as being unpatentable over Sano in view of Shinotsuka et al. and

Skow.

Also, the Examiner rejected claim 19 under 35 U.S.C. § 103(a) as being unpatentable

over Sano in view of Shinotsuka and Skow as applied to claim 18 above, and further in view of

Sano et al. (U.S. Pat #6,972,800 – herein referred to as Sano et al.). However, the Applicant has

also traversed the rejection to claim 19. The Examiner respectfully disagrees with the Applicants

assertions. As explained above, Sano, as modified by Shinotuska and Skow handles white

balance correction for both linear and logarithmic signals. Respectfully, please refer to the

explanation for claim 1 above. Accordingly, the Examiner respectfully maintains the rejection of

claim 19 under 35 U.S.C. § 103(a) as being unpatentable over Sano in view of Shinotsuka and

Skow as applied to claim 18 above, and further in view of Sano et al.

Conclusion

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Carramah J. Quiett whose telephone number is (571)272-7316.

The examiner can normally be reached on 8:00-5:00 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, NgocYen Vu can be reached on (571) 272-7320. The fax phone number for the

organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published applications

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

applications is available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR

system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would

like assistance from a USPTO Customer Service Representative or access to the automated

information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/C. J. Q./
Examiner, Art Unit 2622
October 15, 2008

/Ngoc-Yen T. VU/
Supervisory Patent Examiner, Art Unit 2622